

Conference Abstract

Development of Protocols and Tools to Manage and Archive Data from Aquatic Biodiversity Surveys

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Received: 27 Sep 2020 | Published: 28 Sep 2020

Citation: Coetzer W (2020) Development of Protocols and Tools to Manage and Archive Data from Aquatic Biodiversity Surveys. Biodiversity Information Science and Standards 4: e59027.

<https://doi.org/10.3897/biss.4.59027>

Abstract

Traditionally the South African Institute for Aquatic Biodiversity (SAIAB 2020) has focused on discovering and publishing taxonomic knowledge of fishes. Continuing work now encompasses a broader taxonomic range, and over the last decade, research in ecology, conservation biology and natural resource management has become more important.

The objective of this case study was to elicit the data management requirements of researchers conducting aquatic biodiversity field surveys (or biodiversity inventories, in the broadest sense of the term, including opportunistic sampling). These requirements were used to develop a prototype solution for research data management (data curation and archiving), supported by various tools, templates and protocols.

An important motivation was to publish records standardised according to the Darwin Core Event Class (GBIF 2020a). This would enable analysts to infer species absences, a requirement to develop occupancy models.

The scope of the case study included:

- underwater photographic surveys (using baited remote underwater systems, or BRUVs, as well as video and still photography using a remotely-operated vehicle, and scuba-enabled still photography using a tripod-mounted camera);
- underwater acoustic telemetry surveys;
- collection of specimens of fish and fish larvae, invertebrates and amphibians (including opportunistic collecting as well as systematic sampling).

An important part of the case study was to test the degree to which the schema and applications of the Specify suite of software (Specify 2020) could be reused to manage data in which the Darwin Core Event class is as important as the Darwin Core Occurrence class GBIF 2020b. Preliminary findings indicate that this software suite is potentially useful to curate and archive data from these kinds of biodiversity surveys in the described context. In this presentation I will discuss my experience in developing a prototype solution to manage and archive data from biodiversity surveys, specifically to publish data standardised according to the Darwin Core Event class.

Keywords

biodiversity inventories, Darwin Core Event Class, research data management, data curation, data archiving

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Presented at

TDWG 2020

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